

CLAIMS

What is claimed is:

- Sub A)*
1. A method for synchronizing data records between databases comprising the steps of:
- designating a first database as a source database and a second database as a target database;
  - examining a first modification flag of a first data record in said source database;
  - provided that said first modification flag is set, propagating said first data record to said target database;
  - provided that said first modification flag is not set, comparing a first modification count of said first data record with a second modification count of a corresponding data record in said target database, said first and second modification counts each being a value indicating how many times said first data record and said corresponding data record has been modified respectively; and
  - provided that said first modification count has a higher value than said second modification count, updating said corresponding data record according to said first data record, wherein said steps a) through e) can be completed without comparing raw data of said first data record and said corresponding data record.
2. The method as recited in Claim 1 further comprising the step f) of incrementing said second modification count to said higher value of said first modification count.

3. The method as recited in Claim 2 wherein said steps a) through f) are repeated until all of said data records in said source database have been processed.

5       4. The method as recited in Claim 3 further comprising the steps of:  
          g) redesignating said second database as said source database and said first database as said target database; and  
          h) performing said steps a) through f) repeatedly until all of said data records in said source database have been processed.

10      5. The method as recited in Claim 1 wherein said step c) comprises the steps of:

          updating said corresponding data record in said target database according to said first data record in said source database, provided that said 15 first modification flag is set to indicate that said first data record has been modified in said source database and that said corresponding data record exists in said target database; and

          clearing said first modification flag.

20      6. The method as recited in Claim 1 wherein said step c) comprises the steps of:

          creating a new data record in said target database according to said first data record in said source database, provided that said first modification flag is set to indicate that said first data record is new in said source database and that 25 said corresponding data record does not exist in said target database; and  
          clearing said first modification flag.

7. The method as recited in Claim 1 wherein said step c) comprises  
the step of marking said corresponding data record as deleted in said target  
database, provided that said first modification flag is set to indicate that said first  
data record has been deleted from said source database and that said  
5 corresponding data record exists and is not already marked as deleted in said  
target database.

8. The method as recited in Claim 1 wherein said first database and  
said second database reside in different host systems.

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9. The method as recited in Claim 1 wherein said first database  
resides in a personal digital assistant (PDA).

10. The method as recited in Claim 1 wherein said second database  
15 resides in a computer system to which a personal digital assistant (PDA) can be  
coupled via a cradle device.

11. A computer system comprising a processor coupled to a bus and a  
memory unit coupled to said bus, said memory unit having stored therein  
20 instructions that when executed implement a method for synchronizing data  
records between databases, said method comprising the steps of:

- a) designating a first database as a source database and a second  
database as a target database, said first database residing in said memory unit  
of said computer system;
- 25 b) examining a first modification flag of a first data record in said  
source database;

- c) provided that said first modification flag is set, propagating said first data record to said target database;
- d) provided that said first modification flag is not set, comparing a first modification count of said first data record with a second modification count of a
- 5 corresponding data record in said target database, said first and second modification counts each being a value indicating how many times said first data record and said corresponding data record has been modified respectively; and
- e) provided that said first modification count has a higher value than
- 10 said second modification count, updating said corresponding data record according to said first data record, wherein said steps a) through e) can be completed without comparing raw data of said first data record and said corresponding data record.
- 15 12. The computer system as recited in Claim 11 wherein said method further comprises the step f) of incrementing said second modification count to said higher value of said first modification count.
13. The computer system as recited in Claim 12 wherein said steps a)
- 20 through f) of said method are repeated until all of said data records in said source database have been processed.
14. The computer system as recited in Claim 13 wherein said method further comprises the steps of:
- 25 g) redesignating said second database as said source database and said first database as said target database; and

h) performing said steps a) through f) repeatedly until all of said data records in said source database have been processed.

15. The computer system as recited in Claim 11 wherein said step c)  
5 of said method comprises the steps of:

updating said corresponding data record in said target database  
according to said first data record in said source database, provided that said  
first modification flag is set to indicate that said first data record has been  
modified in said source database and that said corresponding data record  
10 exists in said target database; and

clearing said first modification flag.

16. The computer system as recited in Claim 11 wherein said step c)  
of said method comprises the steps of:

15 creating a new data record in said target database according to said first  
data record in said source database, provided that said first modification flag is  
set to indicate that said first data record is new in said source database and that  
said corresponding data record does not exist in said target database; and  
20 clearing said first modification flag.

17. The computer system as recited in Claim 11 wherein said step c)  
of said method comprises the step of marking said corresponding data record  
as deleted in said target database, provided that said first modification flag is set  
to indicate that said first data record has been deleted from said source  
25 database and that said corresponding data record exists and is not already  
marked as deleted in said target database.

18. The computer system as recited in Claim 11 wherein said second database does not reside in said computer system.

19. The computer system as recited in Claim 11 wherein said  
5 computer system is a personal digital assistant (PDA).

20. The computer system as recited in Claim 11 wherein said computer system is coupled to another computer system in which said second database resides.

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21. A computer readable medium having embodied therein computer readable code for causing a computer system to implement a method for synchronizing data records between databases, said method comprising the steps of:

15 a) designating a first database as a source database and a second database as a target database;

b) examining a first modification flag of a first data record in said source database;

c) provided that said first modification flag is set, propagating said first data record to said target database;

d) provided that said first modification flag is not set, comparing a first modification count of said first data record with a second modification count of a corresponding data record in said target database, said first and second modification counts each being a value indicating how many times said first

25 data record and said corresponding data record has been modified respectively; and

e) provided that said first modification count has a higher value than said second modification count, updating said corresponding data record according to said first data record, wherein said steps a) through e) can be completed without comparing raw data of said first data record and said 5 corresponding data record.

22. The computer readable medium as recited in Claim 21 wherein said method further comprises the step f) of incrementing said second modification count to said higher value of said first modification count.

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23. The computer readable medium as recited in Claim 22 wherein said steps a) through f) of said method are repeated until all of said data records in said source database have been processed.

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24. The computer readable medium as recited in Claim 23 wherein said method further comprises the steps of:

g) redesignating said second database as said source database and said first database as said target database; and

20 h) performing said steps a) through f) repeatedly until all of said data records in said source database have been processed.

25. The computer readable medium as recited in Claim 21 wherein said step c) of said method comprises the steps of:

updating said corresponding data record in said target database

25 according to said first data record in said source database, provided that said first modification flag is set to indicate that said first data record has been

modified in said source database and that said corresponding data record exists in said target database; and

clearing said first modification flag.

5        26. The computer readable medium as recited in Claim 21 wherein said step c) of said method comprises the steps of:

creating a new data record in said target database according to said first data record in said source database, provided that said first modification flag is set to indicate that said first data record is new in said source database and that  
10      said corresponding data record does not exist in said target database; and

clearing said first modification flag.

27. The computer readable medium as recited in Claim 21 wherein said step c) of said method comprises the step of marking said corresponding data record as deleted in said target database, provided that said first modification flag is set to indicate that said first data record has been deleted from said source database and that said corresponding data record exists and is not already marked as deleted in said target database.

20        28. The computer readable medium as recited in Claim 21 wherein said first database and said second database reside in different host systems.

29. The computer readable medium as recited in Claim 21 wherein said first database resides in a personal digital assistant (PDA).

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30. The computer readable medium as recited in Claim 21 wherein  
said second database resides in a computer system to which a personal digital  
assistant (PDA) can be coupled via a cradle device.